

Wetter. Berlin. 31. Jahrgang. März 1914.

Arendt, Th[eodor]. Über Niederschlagsveränderlichkeit. p. 49-54.

Thraen, August. Wie wird der Mai 1914? p. 54-63.

Meissner, Otto. Der tägliche Gang der Windstärke in Borkum und Hamburg (1901-1910). p. 63-65.

Preusse, H. Der wetterkundliche Unterricht in einklassigen Volksschulen, p. 69-72.

commission recently appointed by the International Meteorological Committee to carry out a series of aerological observations at a chain of stations extending around the north polar basin (see fig. 1), simultaneously with the similar observations which are to be made by Capt. Amundsen, during his coming north polar drift. The

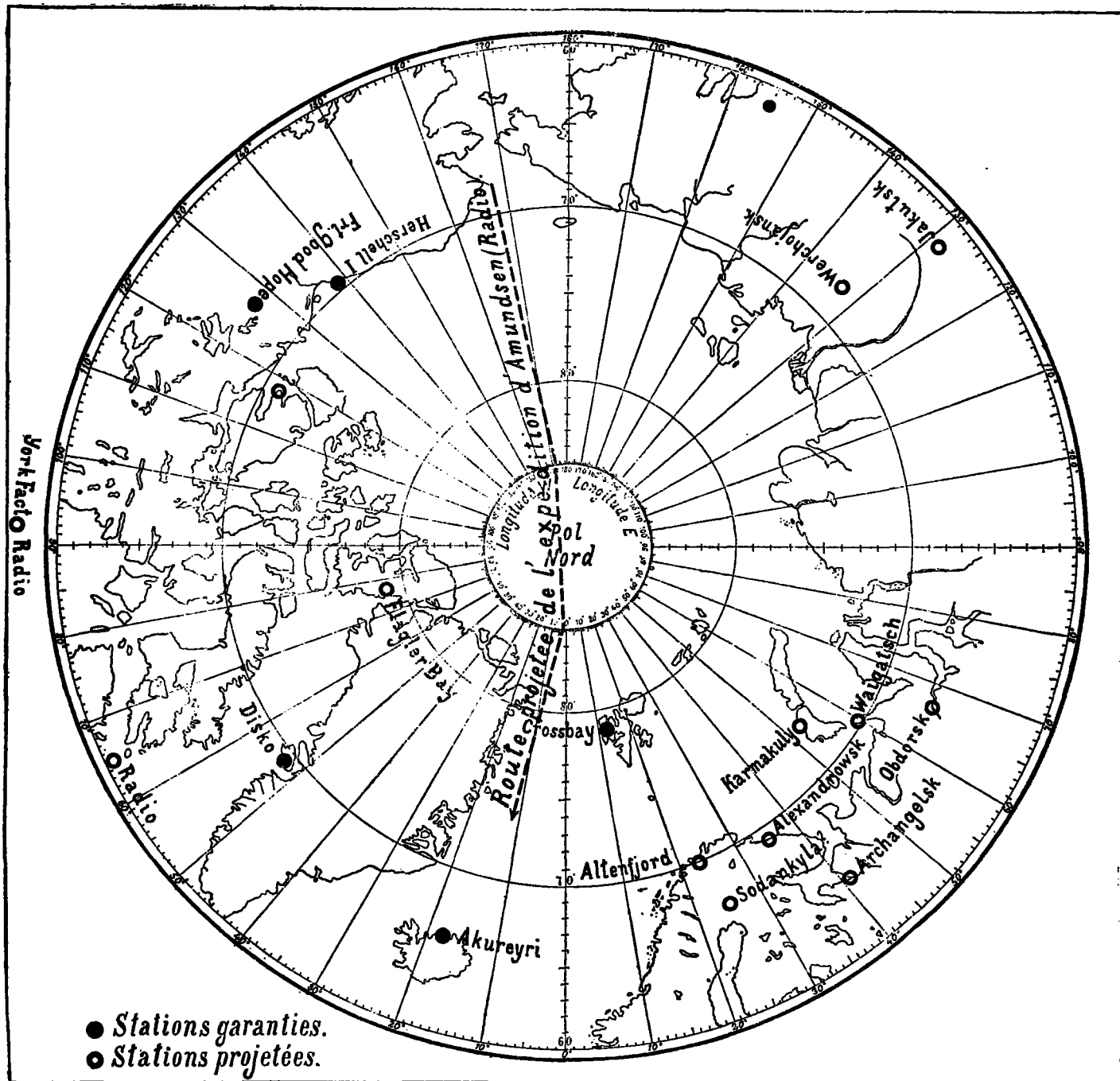


FIG. 1.—Proposed route of Capt. Amundsen's arctic expedition, and location of stations that are to collaborate in aerological observations. (From Bulletin Imp. Acad. Sci., St. Petersburg, April 1, 1914. For English spelling of names see text.)

NOTES FROM THE WEATHER BUREAU LIBRARY.

By C. FITZHUGH TALMAN, Junior Professor, in charge of Library.

INTERNATIONAL AEROLOGICAL OBSERVATIONS IN THE ARCTIC.

The Bulletin of the Imperial Academy of Sciences of St. Petersburg, of April 1, contains an account of a meeting in Copenhagen, February 28-March 1, 1914, of the

membership of this commission is as follows: Gen. Rykachev (president), R. Amundsen, H. Hergesell, C. Ryder, R. F. Stupart, B. Birkeland, Prince Golitsyn, A. de Quervain, and A. Wegener (secretary).

The plans formulated at this meeting were based on the assumption that Capt. Amundsen would set out on his expedition next summer, and undoubtedly some modifications will be necessitated by the fact that the expedi-

tion has now been postponed until the summer of 1915 (There is, in fact, a possibility that it may be abandoned altogether, on account of insufficient funds.)

The arrangements so far made are as follows: The chief physicist of the meteorological service of Canada expected to make a trip down the Mackenzie River, in April, 1914, to the Arctic Ocean, taking with him enough balloons and theodolites to equip four stations. Two of these, Fort Good Hope (lat. $66^{\circ} 20' N.$, long. $128^{\circ} 25' W.$), and Herschel Island (lat. $69^{\circ} 30' N.$, long. $139^{\circ} 15' W.$), are already in operation as ordinary meteorological stations. The other two stations were to have been established by the two branches of the Canadian Arctic Expedition, now in the field, which were to have received their aerological equipment this year at Herschel Island. The misadventures which befell this expedition last autumn make it uncertain whether both of these stations can be established, but it is thought that at least one will be established in Victoria Land, in about lat. $71^{\circ} N.$, long. $118^{\circ} W.$ During the coming summer the Canadian Government proposes to establish radiotelegraphic stations at York Factory (lat. $57^{\circ} N.$, long. $92^{\circ} 28' W.$), and also probably near the northern extremity of Labrador. It is expected that these two stations will also take part in the campaign of upper-air research.

Prince Golitsyn, director of the Russian meteorological service, has asked his Government to establish temporary first-order meteorological stations, fully equipped with kites, captive balloons, and sounding-balloons, at Karmakuly (Nova Zembla), Yakutsk, and Verkhoyansk. It is also proposed to establish pilot-balloon stations at Alexandrovsk, Archangel, Vaigach Island, and Obdorsk. The Russian service is also planning to establish an extensive network of pilot-balloon stations scattered over the Empire, some of which will no doubt take part in the proposed polar campaign, in case this project is approved by the Government. The Danish meteorological service will carry out aerological observations at Disco Bay, on the west coast of Greenland, and at Akureyri, in Iceland. The most northerly land station engaged in this undertaking will be the German observatory at Cross Bay, Spitsbergen. Finally, it is hoped that the Scandinavian observatories at Altenfjord and Sodankyla will take part, and that observations will be made by the American Crocker Land Expedition, at its principal base (which has been established at Etah, Greenland, instead of Flagler Bay, as originally proposed). During the year September, 1915–September, 1916, when it was expected that Amundsen would be nearest the North Pole, all stations were to make daily upper-air observations, if possible. During the rest of Amundsen's journey such observations were to be made at least on the international term days. The work with kites and balloons is to be supplemented with nephoscopic observations.

BRITISH COLONIAL OBSERVATIONS.

Pending the creation of some efficient international service for collecting and publishing meteorological observations from portions of the world lying outside of the great national *réseaux*, the British Meteorological Office is entitled to our gratitude for the system which it inaugurated a few years ago of assembling from the "blue books" of the various British colonies extracts of those portions containing meteorological observations, and distributing these promptly to the principal meteorological libraries of the world. Before this plan was adopted, meteorological data were almost unobtainable from some of the smaller

colonies in question. The collection of observations for the year 1912, just distributed, includes the following data:

Gibraltar.....	Monthly and annual summaries.
Cyprus.....	Monthly and annual summaries for 6 stations.
Malta.....	Monthly and annual summaries for 7 stations.
Hongkong.....	Daily readings and monthly and annual summaries.
Ceylon.....	Monthly and annual summaries.
Straits Settlements.....	Monthly and annual summaries for 5 stations, with a monthly rainfall for a number of stations.
Accra.....	Monthly and annual summaries.
Freetown, Sierra Leone.....	Monthly and annual summaries with daily readings of barometer.
Gambia.....	Monthly and annual summaries with daily readings for Bathurst.
Northern Nigeria.....	Monthly and annual summaries for 19 stations, with daily readings for Zungeru and Lokoja.
Southern Nigeria.....	Monthly and annual summaries for 33 stations.
Nyasaland.....	Monthly and annual summaries with daily readings for Zomba.
Belize(British Honduras).....	Monthly and annual summaries.
Antigua.....	Monthly and annual summaries with monthly rainfall at various stations.
Barbados.....	Daily readings with monthly and annual summaries.
Bermuda.....	Daily readings.
Grenada.....	Daily readings with monthly and annual summaries.
Jamaica.....	Daily readings at Kingston with monthly and annual summaries for 2 stations.
Nassau.....	Monthly and annual summaries.
St. Lucia.....	Monthly and annual summaries with monthly rainfall at a number of stations.
St. Vincent.....	Monthly and annual summaries.
Trinidad and Tobago.....	Daily readings with monthly and annual summaries and monthly and annual rainfall at a number of stations and daily sunshine for 1 station.
Georgetown.....	Daily readings and monthly and annual summaries.
Mauritius.....	Daily readings with monthly and annual summaries.
Seychelles.....	Daily readings with monthly and annual summaries.
Fiji.....	Daily readings with monthly and annual summaries.

In addition to the foregoing data relating to the year 1912, the report for Trinidad includes a collection of monthly rainfall values, year by year, for the period 1862–1912, together with statistics of yearly pressure, temperature, and humidity for the period 1888–1912, at the St. Clair Experiment Station; the report for Grenada gives the yearly amounts of rainfall at Richmond Hill from 1891 to 1912; the report for Antigua gives yearly values of the average rainfall for the whole colony from 1874 to 1912; while "normals" of various elements are found in the reports from Suva (Fiji), Malta, and Ceylon.

These reports are extremely heterogeneous in form, and some of them betray eccentric methods of observation and record. It is to be hoped that the British Meteorological Office will ultimately prevail upon the authorities of the various colonies to adopt uniform term-hours, registers, instrumental equipment, etc., conforming as far as possible to the recommendations of the International Meteorological Committee.

METEOROLOGY IN THE BELGIAN KONGO.

During the past decade climatographic investigations have made more striking progress in Africa than in any other continent. The necessity of collecting climatic statistics, as a preliminary to the agricultural exploitation

of a virgin country, is now fully realized by the officials administering most of the European colonies in Africa; this is true especially of the German and British colonies, all of which are well supplied with meteorological stations.

In the Belgian Congo a well-organized climatological service dates only from the year 1911. This service, which is under the Direction de l'Agriculture, includes 4 stations of the first order, 2 of the second, and 34 of the third. The distribution of stations, in operation or

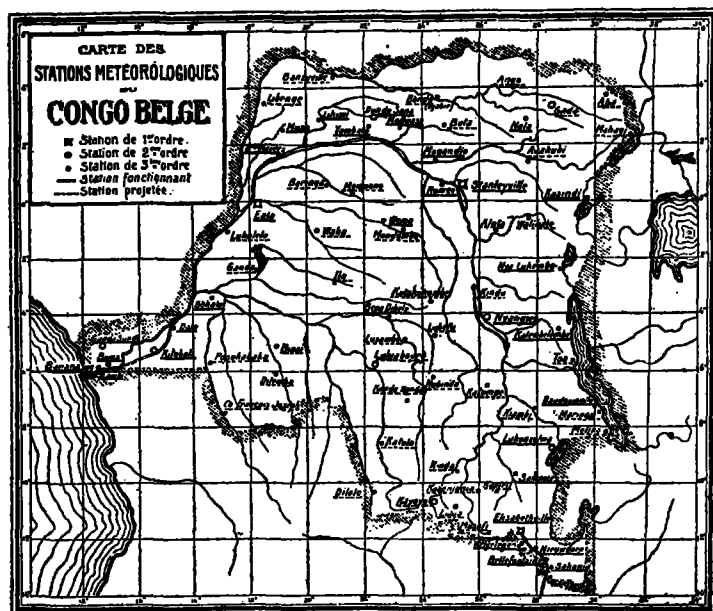


FIG. 2.—Map of meteorological stations in the Belgian Congo. (From Agric. Bull. of Belgian Congo.)

projected, is shown by the accompanying chart (fig. 2) from the March, 1913, number of the Bulletin Agricole du Congo Belge. From the same publication we learn that a rainfall chart of the Belgian Congo will probably be published in four or five years; also that at several places in the colony meteorological observations have been undertaken especially with a view to the requirements of aviation. It is understood that aeroplanes will be extensively used as a means of communication in this part of Africa.

BLUE HILL METEOROLOGICAL OBSERVATORY.

[Extracted from Report Harvard College Astronomical Observatory for the year ending Sept. 30, 1913.]

Pending the formal transfer in March, 1913, of the observatory to Harvard University, all costs of maintenance were defrayed by Mrs. A. Lawrence Rotch. In accordance with the wish of the founder, regular observations have been continued and the record now covers a period of 28 consecutive years. Normals for a 25-year period have been prepared and will soon be ready for publication. The usual work of the observatory was carried on without interruption. Comparative readings at the auxiliary stations, known as the base and valley stations, are now available for a period of nearly 25 years. These data will be utilized in studies of best methods of protecting vegetation from injury by frost.

Upper-air investigation by means of kites was continued until March, the last flight occurring March 7. This was during a thunderstorm and a discharge of lightning melted a mile of wire and damaged the kite reel. Two of the observers were shocked, one severely, but fortu-

nately no permanent injury resulted. For various reasons the use of ballon-sondes or sounding balloons is preferable in exploring the upper air and the kite method is being generally abandoned. Continuance of the kite work is problematical. Blue Hill Observatory¹ was one of the first—if not, indeed, the first—observatories, to fly kites for aerological research. It was also the first to use the sounding balloon, in the United States.

The observatory is now a part of the department of geology, but the close affiliation with the astronomical observatory which has existed for years will be continued and every effort made to utilize data for the benefit of the astronomer, particularly in connection with refraction.

In connection with the erection of a memorial fountain not far below the summit, water was piped from Canton. Through the generosity of Mrs. A. Lawrence Rotch and the cooperation of the Metropolitan Park Commission, an ample supply is available for observatory purposes.

The following changes in the observing force have occurred: Mr. C. F. Brooks resigned as research assistant; Mr. L. A. Wells continued as observer in chief, and Prof. R. De C. Ward had general supervision until the appointment of Mr. A. G. McAdie as professor of meteorology and director of the observatory. The last named assumed charge October 1, 1913.

WIND-ROSE PAPER.

An important conception in local climatology is conveniently expressed by the graphic expedient of the wind-rose. Thus, such indefinite statements as that (at any particular place) "an east wind brings rain," "the coldest wind comes from the northwest," etc., may be replaced advantageously by wind-roses, showing the degree of rainfall, temperature, etc., that is normally associated with each of the principal wind directions.

In the Meteorologische Zeitschrift for March, 1914, Prof. Carl Kassner, of the Royal Prussian Meteorological Institute, describes a device which, by facilitating the process of drawing wind-roses, should encourage the more extensive use of these valuable diagrams in climatology. Prof. Kassner has induced a German firm to prepare paper ruled with lines radiating from a center and with circles concentric around the same center. There are 16 radii; 8 of them heavy lines for the 8 principal wind directions, the others light lines for the intermediate directions. The circles are drawn at intervals of 2 millimeters, the total radius being 8 centimeters. Each of these diagrams is printed on a sheet of paper 22 by 28 centimeters. These sheets come in pads of 50 each. The lines are generally printed in brown ink. They are also, however, obtainable in pale blue; in which case, if, after the wind-rose is drawn, it is copied photographically, the lines of the original diagram will disappear.

RETIREMENT OF DR. ASSMANN.

On April 1, 1914, Geh. Reg.-Rat. Prof. Dr. Richard Assmann retired from the active duties in the execution of which he has been, for a number of years, perhaps the most conspicuous figure in German meteorology. An appreciative sketch of his career is published in the Deutsche Luftfahrer Zeitschrift by the editor, Herr Paul Béjeuhr.

Assmann was born in Magdeburg in 1845, and began his public career as a doctor of medicine. He soon, however, turned his attention to meteorology, and from 1881

¹ The history of the use of kites in aerological research was set forth in the REVIEW for January, 1914, p. 89.—EDITOR.